FACT SHEET

EPA Region 7

Former USDA Grain Bin Locations July 1999 Missouri

Update

The U. S. Environmental Protection Agency (EPA) Region 7, in cooperation with the United States Department of Agriculture (USDA) and the Missouri Department of Natural Resources (MDNR), continues to conduct ground water, well water, soil, and soil gas samples at known locations of former USDA/Commodity Credit Corporation (CCC) grain storage facilities in Missouri. The purpose of the sampling is to look for carbon tetrachloride and related chemicals that may be contaminating the ground water. The source of the potential contamination is from a grain fumigant formerly used by CCC and others in the 1950s and 1960s, called 80/20, that contained 80% carbon tetrachloride. This grain fumigant may have gotten into the ground water and could be contaminating wells nearby. Carbon tetrachloride is a probable human carcinogen. Its use as a grain fumigant was banned in 1985.

Background

The locations are a concern because the CCC, and others, used a fumigant mixture containing carbon tetrachloride to protect the grain from insects. Over the last few years, similar sampling efforts have been conducted at 739 former CCC storage locations in neighboring states. That sampling resulted in the discovery of carbon tetrachloride contaminated ground water at 130 locations. At 61 of those locations, the contamination exceeded the EPA's Safe Drinking Water Act maximum contaminant level (MCL) of five micrograms per liter (equivalent to five parts per billion). This could pose an increased health risk over a lifetime if water continues to be used for drinking, cooking, and showering. MCLs govern the permissible level of a contaminant in a public water system under the Safe Drinking Water Act. EPA also uses MCLs as a guideline when it tests private wells.

More Information

Additional information about sampling at the former grain storage locations is in the following questions and answers:

Q: What is the purpose of the sampling?
A: The purpose of the sampling is to look for carbon tetrachloride and related chemicals that might be contaminating ground water and soil at former CCC grain storage facilities.

Q: What is grain fumigant?
A: Grain fumigants are chemicals that produce a toxic gas in the grain, which kills insects. Carbon tetrachloride was used for this purpose. Safer compounds are used today.

Q: Who will conduct the sampling?
A: EPA will conduct the sampling in Missouri. EPA's first step, with the assistance of USDA, will be to identify the current owner(s) and exact location of each former CCC grain storage facility.

Q: How will the samples be collected?
A: Many of the samples will be collected by

pushing a sample-gathering probe directly into the soil. This involves a hydraulic apparatus, sometimes known as a Geoprobe, that is mounted in the bed of a heavy duty four-wheel drive pickup truck. The truck is driven to the sample location, and three-foot long sections of pipe are added as the sampling apparatus is hydraulically driven into the ground. The sections of tubing are then withdrawn, and a core of soil about 1 ½ inches in diameter is collected. The same apparatus is used to collect ground water and soil gas samples with different attachments at the end of the driven pipe. After sampling is completed, the borehole is plugged with a clay mixture, which will absorb moisture from the surrounding soil to form a solid plug that will prevent water from traveling directly from the surface to the ground water. Private and/or municipal wells within a mile radius may be sampled . Owners of private wells this close to the site may be contacted for sampling permission.

Q: How long will the sampling take?
A: Collection of samples at each location will take up to two days.

Q: Will the property owners be notified of the results?
A: Results of the sampling will be sent to property owners by certified mail.

Q: Who will pay for the sampling?
A: The contractors conducting the sampling will bill EPA.

Q: What are EPA's next steps if carbon tetrachloride is found in a drinking water well?
A: If carbon tetrachloride is detected at a concentration significantly above the MCL in a well used for domestic purposes, alternate water will be provided.

If you have questions or need additional information, please call:

Shawntell Crossgrow
Community Involvement Coordinator
Office of External Programs
EPA Region 7
901 N. 5th Street
Kansas City, Kansas 66101
(913) 551-7003 or
Toll-Free: 1-800-223-0425